

**REMARKS/ARGUMENTS**

Applicant respectfully requests reconsideration of this application in view of the following remarks.

Claims 1-27 stand rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Urien [6,751,671 B1].

**Claim 1 Rejection under 35 U.S.C. § 102(e) or § 103(a) – Urien**

Applicant's claim 1 recites:

1. A computer network architecture comprising:

(a) a first layer including a transmission control protocol connection;

(b) a second layer including a hyper text transfer protocol connection built upon the first layer;

(c) a first tunneling layer including a first tunneling protocol built upon the second layer to tunnel a message through the hyper text transfer protocol connection; and

(d) a multiplexing layer to multiplex a plurality of messages for transmission through the first tunneling layer.

**[Bolded markers for (a), (b), (c), (d) added for discussion below.]**

With respect to (a):

The Office states in paragraph 3 page 2:

Urien discloses ... a first layer including a transmission control protocol connection [Urien, TCP, col 6 lines 10-15; col 11 lines 15-40 seq];

**Firstly:** at Urien col 6 lines 10-15, Urien is describing an Internet environment with 5 layers according to the OSI model thusly:

In the Internet environment, there are five layers and, in particular, from the highest layer to the lowest: an application layer ("http", "ftp", "e-mail" etc.), a transport layer ("TCP"), a network addressing layer ("IP"), a data link layer ("PPP", "SLIP", etc.) and the physical layer.

From lowest to the highest, as described by Urien, the stackup is as follows:

Physical Layer <-> PPP/SLIP, etc. <-> IP <-> TCP <-> HTTP/FTP/EMAIL, etc

This is not the same as Applicant's claim 1:

TCP/IP <-> HTTP <-> Tunneling <-> Multiplexing (Applicant)

**Secondly:** at Urien col 11 lines 15-40 seq., Urien is describing (see Urien Figure 6A) a URL request being processed through a transport layer (C<sub>4</sub>) then through a Network Address Layer (C<sub>3</sub>). Urien at seq. still fails to show:

TCP/IP <-> HTTP <-> Tunneling <-> Multiplexing (Applicant)

While Urien shows a TCP connection it is in relation to an Internet stack and is not the same because the Internet stack does not disclose or suggest Applicant's Tunneling and/or Multiplexing.

With respect to (b):

The Office states in paragraph 3 page 2:

Urien discloses ... a second layer including a hyper text transfer protocol connection built upon the first layer [Urien, HTTP, col 6 lines 40-57; col 11 lines 15-40 seq];

**Firstly:** at Urien col 6 lines 40-57, Urien is describing two groups of half duplex communication channels. Specifically:

**Access circuits (11) are connected to smart card (2a) via a bi-directional transmission channel**, represented by two serial links **(21a)**.

**Similarly, smart card (2a) is connected to the terminal and, in particular, navigator (10) via a bi-directional transmission channel**, which is represented by two serial links **(22a)**.

More specifically, **channel (21a) and channel (22a) are disjointed and bi-directional from a logical point of view. ...allow, in particular, using a unique physical connection, of the type termed "half-duplex" according to current state of the art, two analog channels, (21a) and (22a) to be obtained. ...**  
(Emphases added.)

Two groups of analog half duplex communication channels (Urien) is not the same as Applicant's "a second layer including a hyper text transfer protocol connection built upon the first layer."

**Secondly:** at Urien col 11 lines 15-40 seq., Urien is describing (see Urien Figure 6A) a URL request being processed through a transport layer (C<sub>4</sub>) then through a Network Address Layer (C<sub>3</sub>).

This is not the same as Applicant's "a second layer including a hyper text transfer protocol connection built upon the first layer" because Urien does not disclose or suggest Applicant's Tunneling and Multiplexing and certainly not tunneling "above" the HTTP layer.

**Thirdly:** Urien at seq. still fails to show:

TCP/IP <-> HTTP <-> Tunneling <-> Multiplexing (Applicant)

With respect to (c):

The Office states in paragraph 3 page 2:

Urien discloses ... a first tunneling layer including a first tunneling protocol built upon the second layer to tunnel a message through the hyper text transfer protocol connection [Urien, tunnel mode, col 12 line 59-30, Fig 7D];

**Firstly:** at Urien col 12 line 59-30 (understood by Applicant to mean col 12 line 59 through col 13 line 30), Urien is describing a case (Figure 7D) where a layer 3 (network addressing layer C<sub>3</sub>) cannot be shared and so tunneling is needed. Specifically:

FIG. 7D illustrates schematically, in box diagram format, an architecture that is more specifically adapted to a functioning mode termed "tunnel".

According to this functioning mode, the **terminal (1d) cannot supply or**

**share a level 3 layer.** The only possible method of communication between smart card (2a) and network (RI) consists in **establishing a "tunnel" where application data can travel and which is eventually translated by a protocol converter in the specific layer on the terminal side (13d).** **Specific layer (13d) is located between layers at level 4 (C.sub.4) and an application layer (not shown).** As previously outlined, smart card (2a) comprises a specific layer (23a), the counterpart to layer (13d).  
(Emphases added.)

Thus, Urien discloses how the specific layer 13d is located between level 4 and an application layer. **HOWEVER**, as Urien points out, the level 3 layer is **"is eventually translated by a protocol converter in the specific layer on the terminal side (13d)."** Thus, Urien has a stackup like this:

Network Address Layer 3 (C<sub>3</sub>) <--> Transport Layer 4 (C<sub>4</sub>) <--> 13d

This is not the same as Applicant's claim 1:

TCP/IP <--> HTTP <--> Tunneling <--> Multiplexing (Applicant)

**Secondly:** looking at Urien Figure 7D shows that the other side of 13d is in communication with CC<sub>2</sub> a Data Link Layer 2. Thus Urien discloses the following stackup:

Network Address Layer 3 (C<sub>3</sub>) <--> Transport Layer 4 (C<sub>4</sub>) <--> 13d <--> Data Link Layer 2 (CC<sub>2</sub>)

This is not the same as Applicant's claim 1:

TCP/IP <--> HTTP <--> Tunneling <--> Multiplexing (Applicant)

Urien's "tunneling" is to accommodate that the terminal (1d) cannot supply or share a level 3 layer. This level 3 layer is at a much lower level than Applicant's "tunneling."

With respect to (d):

The Office states in paragraph 3 page 3:

Urien discloses ...a multiplexing layer to multiplex a plurality of messages for transmission through the first tunneling layer [Urien, multiplexing layer, col 9 lines 4-12; col 10 lines 6-18; col 11 lines 53-67].

**Firstly:** at Urien col 9 lines 4-12, Urien is describing (see Urien Figure 4) an Interface Software Layer 16, which interfaces to a Data Link Layer CC<sub>2</sub>.

In Terminal (1), layer (13) **interfaces with** "lower driver layers" (15) with libraries (14) of network layers C.sub.3 and C.sub.4 and with protocol layers of card reader (3), that is, with lower layers CC.sub.1 and **CC.sub.2, via multiplexing layer (16)**. Layer (13) allows the transfer of network bundles to and from smart card (2a). Additionally, it adapts to existing applications, such as the Internet navigator (10) (FIG. 2), electronic mail, etc, for uses that invoke function of smart card (2a).

(Emphases added.)

Thus Urien discloses the following connection to a multiplexing layer.

Data Link Layer (such as PPP/SLIP, etc) <--> multiplexing layer (Urien)

This is not the same as Applicant's claim 1:

TCP/IP <--> HTTP <--> Tunneling <--> Multiplexing (Applicant)

Urien's multiplexing is at a much "lower level," using his terminology, than is Applicant's.

**Secondly:** at Urien col 10 lines 6-18, Urien specifically details that the logic multiplexer acts like a data bundle switch for communication at the Data Link Layer (layer 2).

The first layer (130) or (230) essentially consists of a **logic multiplexer**. It allows for exchange of information between smart card (2a) and host terminal (1), occurring as protocol data units. It functions in a way that is **similar to a data bundle switch**. **These units are sent or received via level 2 layers (data link layers)**. This particular communication protocol allows communication to be established between at least one pair of "intelligent agents". The first agent (132) of each pair is located in layer (13) on the side of terminal (1); the second (232a) is located in layer (23a) on the side of smart card (2a). A link between two "intelligent agents" is associated to each session. A session is defined as an exchange of bi-directional data between these two agents.  
(Emphases added.)

Thus again, Urien discloses the following connection to a multiplexing layer.

Data Link Layer (such as PPP/SLIP, etc) <--> multiplexing layer (Urien)

This is not the same as Applicant's claim 1:

TCP/IP <--> HTTP <--> Tunneling <--> Multiplexing (Applicant)

Urien's multiplexing, as he notes, is at layer 2, a much lower layer than is Applicant's.

**Thirdly:** at Urien col 11 lines 53-67, Urien is describing (see Urien Figure 6A) a data flow. Specifically:

For the first session, the flow of data travels through Terminal (1) layers: C.sub.4, C.sub.3, C.sub.4, 13 (agent 132.sub.1 and layer 130), 16, CC.sub.2 and CC.sub.1, and smart card (2a) layers: CCa.sub.1, CCa.sub.2, 23a, (layer 230a and agent 232a.sub.1), to reach application layer (24a).

For the second session, the flow of data, originating from application layer (24a), travels through smart card (2a) layers: 23a, (agent 232a.sub.2, and layer 230a), 26a, CCa.sub.2, CCa.sub.1, and Terminal (1) layers: CC.sub.1, CC.sub.2, 16, 13, (agent 132.sub.2, and layer 130), C.sub.4 to C.sub.1, prior to reaching network RI.

Examining Urien Figure 6A again shows that the Interface Software layer (16) (a "multiplex" layer) is in communication with the Data Link Layer CC<sub>2</sub>. Also, the Interface Software layer (26a) (a "multiplex" layer) is in communication with the Data Link Layer CC<sub>a2</sub>.

Thus again, Urien discloses the following connection to a multiplexing layer.

Data Link Layer (such as PPP/SLIP, etc) <--> multiplexing layer (Urien)

This is not the same as Applicant's claim 1:

TCP/IP <--> HTTP <--> Tunneling <--> Multiplexing (Applicant)

Urien's multiplexing at layer 2, is at a much lower layer than is Applicant's.

#### Overall for Claim 1

For all the reasons above, Applicant submits that claim 1 is not anticipated by Urien, or in the alternative obvious in view of Urien and Applicant therefore requests that this



rejection be withdrawn and that claim 1 and all claims dependent on claim 1 be allowed.

**Claim 2 Rejection**

Claim 2 is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 discussion that Applicant's claim 2 is not anticipated by or obvious in view of Urien.

Additionally, the Office states in paragraph 4 page 3:

As per claim 2, Urien discloses the first tunneling protocol opens the HTTP connection between a server and a client [Urien, client-server, col 10 lines 49-51].

At Urien col 10 lines 49-51, Urien is describing a "client" and "server" property. Specifically:

On a non-exhaustive, exemplification basis, the following six properties are listed in association with intelligent agents: (Col 10, lines 40-41)

"client": agent that initializes a session;

"server": agent that receives a session request.

Urien is describing a property and does not suggest or disclose Applicant's "first tunneling protocol opens the HTTP connection between a server and a client." Applicant therefore requests that this rejection be withdrawn and that claim 2 be allowed.

### **Claim 3 Rejection**

Claim 3 is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 discussion that Applicant's claim 3 is not anticipated by or obvious in view of Urien.

Additionally, the Office states in paragraph 5 page 3:

As per claim 3, Urien discloses a second tunneling layer including a second tunneling protocol built upon the first layer to tunnel a message through the TCP connection [Urien, tunnel mode, col 12 line 59-30, Fig 7D].

**Firstly:** At Urien col 12 line 59-30, Urien as explained above s describing a case (Figure 7D) where a layer 3 (network addressing layer C<sub>3</sub>) cannot be shared and so tunneling is needed.

As detailed above, Urien discloses how the specific layer 13d is located between level 4 and an application layer. HOWEVER, as Urien points out, the level 3 layer is "is eventually translated by a protocol converter in the specific layer on the terminal side (13d)."

Thus, Urien has a stackup like this:

Network Address Layer 3 (C<sub>3</sub>) <--> Transport Layer 4 (C<sub>4</sub>) <--> 13d

This is not the same as Applicant's claim 1:

TCP/IP <--> HTTP <--> Tunneling <--> Multiplexing (Applicant)

**Secondly:** looking at Urien Figure 7D shows that the other side of 13d is in communication with CC<sub>2</sub> a Data Link Layer 2. Thus Urien discloses the following stackup:

Network Address Layer 3 (C<sub>3</sub>) <--> Transport Layer 4 (C<sub>4</sub>) <--> 13d <--> Data Link Layer 2 (CC<sub>2</sub>)

This is not the same as Applicant's claim 1:

TCP/IP <--> HTTP <--> Tunneling <--> Multiplexing (Applicant)

Urien's "tunneling" is to accommodate that the terminal (1d) cannot supply or share a level 3 layer. This level 3 layer is at a much lower level than Applicant's "tunneling"

**Thirdly:** Urien does not mention a second tunneling layer as does Applicant.

Applicant therefore requests that this rejection be withdrawn and that claim 3 and all claims dependent on claim 3 be allowed.

#### **Claim 4 Rejection**

Claim 4 is dependent on claim 3 which is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 and claim 3 discussions above that Applicant's claim 4 is not anticipated by or obvious in view of Urien.

Applicant therefore requests that this rejection be withdrawn and that claim 4 and all claims dependent on claim 4 be allowed.

#### **Claim 5 Rejection**

Claim 5 is dependent on claim 4 is dependent on claim 3 which is

dependent on claim 1 and Applicant submits that for all the reasons in the claim 1, claim 3, and claim 4 discussions above that Applicant's claim 5 is not anticipated by or obvious in view of Urien.

Applicant therefore requests that this rejection be withdrawn and that claim 5 be allowed.

#### **Claim 6 Rejection**

Claim 6 is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 discussion that Applicant's claim 6 is not anticipated by or obvious in view of Urien. Applicant therefore requests that this rejection be withdrawn and that claim 6 be allowed.

#### **Claim 7 Rejection**

Claim 7 is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 discussion that Applicant's claim 7 is not anticipated by or obvious in view of Urien. Applicant therefore requests that this rejection be withdrawn and that claim 7 and all claims dependent on claim 7 be allowed.

#### **Claim 8 Rejection**

Claim 8 is dependent on claim 7 which is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 discussion and the claim 7 discussion above that Applicant's claim 8 is not anticipated by or obvious in view of Urien. Applicant therefore requests that this rejection be withdrawn and that that claim

8 be allowed.

**Claim 9 Rejection**

Claim 9 is dependent on claim 7 which is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 discussion and the claim 7 discussion above that Applicant's claim 9 is not anticipated by or obvious in view of Urien.

Applicant therefore requests that this rejection be withdrawn and that claim 9 be allowed.

**Claims 10-19 and 19-27**

The Office has stated in paragraph 12 page 4:

12. Claims 10-19,19-27 contain the similar limitations set forth of apparatus claims 1-9. Therefore, claims 10-27 are rejected for the similar rationale set forth in claims 1-9.

Applicant submits that claims 10-27 are not anticipated by or obvious in view of Urien, and that for all the reasons stated above with respect to the discussion of claims 1-9 (hereby incorporated) that claims 10-27 are allowable. Applicant therefore requests that claims 10-27 be allowed.

CONCLUSION

Applicant respectfully submits that all claims are in condition for allowance, and requests allowance of all claims.

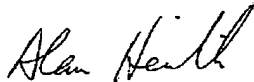
The Examiner is invited to call Alan Heimlich at 408 253-3860 if there remains any issue with allowance. Email communication is authorized.

Respectfully submitted,

Heimlich Law

07/31/2005

Date



Digitally signed by Alan  
Heimlich  
DN: CN = Alan Heimlich, C =  
US, O = Heimlich Law

Alan Heimlich / Reg 48808

Attorney for Applicant(s)

Customer No. 40418

5952 Dial Way  
San Jose, CA 95129

Tel: 408 253-3860  
Eml: [alanheimlich@heimlichlaw.com](mailto:alanheimlich@heimlichlaw.com)